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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,121	01/31/2002	Robert P. Benjey	01-ASD-224 (GT)	5887
200	7590	12/24/2003	EXAMINER	
EATON CORPORATION EATON CENTER 1111 SUPERIOR AVENUE CLEVELAND, OH 44114			RIVELL, JOHN A	
		ART UNIT	PAPER NUMBER	
		3753	8	

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

SIN

Office Action Summary	Application No.	Applicant(s)	
	10/060,121	BENJEY, ROBERT P.	
	Examiner	Art Unit	
	John Rivell	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 9/12/03 (req for recon), 6/5/03 (IDS).
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 March 2002 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

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Applicant's arguments, see page 2, lines 8-13, filed September 12, 2003, with respect to the rejection(s) of claim(s) 1-5, 7-9 and 11 under 35 §U.S.C. 102(b) and 35 §103(a), using Hashimoto et al. as a primary reference disclosing a "seal" with the fuel nozzle N, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly cited reference to Benjey (5,950,655).

Claims 1-12 remain pending.

The indicated allowability of claims 6, 10 and 12 is withdrawn upon reconsideration of the references cited. Rejections based on the newly cited reference(s) follow.

The reference "AA" to Kunimitsu et al, U.S. Pat. No. 5,570,672 cited on applicants PTO-1449 has been lined through because of it being previously cited on PTO-892, attached to paper no. 4.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. in view of Benjey (5,950,655).

The patent to Hashimoto et al. discloses a "system for controlling flow of liquid fuel and vapor during refueling of a motor vehicle fuel tank (2) with a filler tube (3) for receiving a fuel dispensing nozzle (N) comprising: (a) a vent valve (5 or 6) disposed in the tank (2) and having an inlet (at 5, 6a) communicating with the vapor dome in the

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tank (2) and an outlet (7 or 8) communicating with a remote vapor storage device (9); (b)... (c) a recirculation conduit (18) connected to admit fuel vapor to the filler neck (3) at a location downstream of the seal: and, (d) a neck portion (the lower left side of tube 3 as shown in fig. 4) in the filler tube (3) downstream of the location of said recirculation conduit (18) connection location, wherein said neck has an inner periphery thereof sized to receive the nozzle (N) in closely fitting arrangement and to form an effective dynamic seal about the liquid discharging from the nozzle" (N) as claimed in claim 1. The "dynamic seal" formed therein is considered to be "effective" in that a negative pressure condition is created within the chamber area 21 (column 7, lines 13-22).

Thus Hashimoto et al. discloses all the claimed features with the exception of having a seal disposed in the filler tube (3) and operable for sealing about the nozzle (N) upon insertion therein".

The patent to Benjey ('655) discloses that it is known in the art to employ a nozzle "seal (24) disposed in the filler neck (upper end13 of neck/pipe 12) and operable for sealing about the nozzle (20) upon insertion therein" for the purpose of minimize fuel vapor leakage (fuel vapor fed back to the filler neck 13 by line 28 when the level of fuel in tank 10 is below the "full" line 30) to atmosphere from the fuel filler neck during refueling.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hashimoto et al. a nozzle seal element, disposed in the fuel filler neck and attached to element 19 for the purpose of minimizing fuel vapor leakage to atmosphere from the fuel filler neck during refueling as recognized by Benjey ('655).

Regarding claim 4, in Hashimoto et al., the "recirculation conduit (18) has one end connected through the wall of the tank (2) and an end opposite said one end connected to the filler tube (3) at said location" as claimed.

Regarding claim 5, in Hashimoto et al., both "said vent valve(s) (5 and 6 are) float operated" as claimed.

Regarding claims 7 and 9 the method steps recited therein are clearly those practiced when making and/or using the device of Hashimoto et al. as modified by Benjey ('655).

Regarding claim 6 and 9, while the patent is silent as to dimensions, the disclosure, along with the reasonable inference drawn from figure 4, is believed to reasonably suggest to one of ordinary skill in the art that a ratio of diameter of fuel nozzle N to diameter of the fuel filler neck 3 at the point in insertion of the nozzle into the narrowest section of the fuel neck (at reference arrow 3) which forms the necessary jetting action to form a vacuum in the chamber at reference 21 is present. What that specific ratio is to be, other than the apparent desire to have the diameter of the fuel neck slightly larger than the diameter of the nozzle, however is not specifically apparent from the figures.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any desired ration of diameter of fill nozzle to diameter of fuel neck in which an optimum vacuum is created in chamber 21 to assure fuel vapor fed to the fuel neck 3 from the fuel tank during refueling is recirculated back down the fuel neck with incoming liquid fuel , since it has been held that where the general conditions of a claim are disclosed in the prior art, as is believed here, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 2, 3, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. in view of Benjey ('655), as applied to claims 1, 4, 5, 7 and 9 above, further in view of Yamazaki et al.

The patent to Hashimoto et al., as modified by Benjey ('655), discloses all the claimed features with the exception of having a check valve in the recirculation line and having the "end" opposite the filler tube end of the recirculation line connected to a line connecting the vent valve and the storage device.

The patent to Yamazaki et al. discloses, in figure 9 for example, that it is known in the art to employ a vapor recirculation line 27₃ connected between a line 23a connecting the float vapor vent valve 25 to a vapor storage device "C" and the filler tube 22a', which recirculation line 27₃ includes a check valve 62 therein for the purpose of recirculating vapor conducted to the storage device from the vent valve back to the filler tube, and to control the direction of vapor flow within the recirculation tube.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hashimoto et al., as modified by Benjey ('655), a vapor recirculation line connected between line 7 or 8 connecting the float vapor vent valve 5 or 6 to vapor storage device 9 and the filler tube 3, which recirculation line includes a check valve therein for the purpose of recirculating vapor conducted to the storage device from the vent valve back to the filler tube, and to control the direction of vapor flow within the recirculation tube as recognized by Yamazaki et al.

Regarding claim 12, the comments made above concerning claims 6 and 11 apply here as well.

Regarding applicants remarks as they may apply, it is believed Benjey ('655) readily suggests to one of ordinary skill in the art the desire to employ a nozzle seal 24,

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about the fuel fill nozzle, sealing the contact there between so as to preclude fuel vapor leakage to the atmosphere.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703) 308-1272. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


John Rivell
Primary Examiner
Art Unit 3753

j.r.